REMARKS

Claims 1, 4-7 and 26 are pending.

Applicant respectfully requests reconsideration of the Examiner's finding that claim 26 is independent and distinct from the invention originally claimed. Prior to Applicant's January 25, 2006 Amendment, pending independent claim 1 was directed to a computer implemented trading method that _generically_ recited a "first order" and a "second order," without specifying whether each order was a buy order or a sell order. Previously pending dependent claims 2-3 respectively recited: (i) an embodiment where the first order was a buy order and the second order was a sell order, and (ii) an embodiment where the first order was a sell order and the second order was a buy order. _See_ Response to Office Action dated August 12, 2005. In Applicant's January 26, 2006 Amendment, the limitations of previous claim 2 were amended into claim 1. At the same time, Applicant presented new claim 26, which was _a mirror version of amended claim 1, except that it included the limitations of previous claim 3 (rather than previous claim 2)._ In view of the above, it is clear that new claim 26 is not independent and distinct from the originally claimed invention. Reconsideration of the Examiner's decision to withdraw claim 26 is therefore respectfully requested.

Previous claim 1 stands rejected for obviousness over Sundaresan in view of Walsh and Kuechler. The Examiner has acknowledged that the following limitation in claim 1 is not shown by Sundaresan or Walsh: that the "_buy order includes a filter specified by the user that creates an_ **arbitrarily**_-shaped region within the at least four dimensions._" However, the Examiner has asserted that this limitation is met by Kuechler,

at Col. 1, lines 44-52, Col. 24, line 63-Col. 25, line 5 and claim 1. Applicant respectfully

disagrees. The portions of Kuechler relied upon by the Examiner as set forth below:

> The second is to store, for all elements, duplicate values of selected attributes (associated with a corresponding element address) in a specialized data structure (index) designed for rapid access to values and corresponding information elements meeting the specification. Examples of such specialized data structures include ordered lists, trees, hashed indexes and a number of other variations, of which, only a few are commercially viable.
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> Current methods for physical access to specific records by exact key values, such as B-tree or hashed index files, are extremely efficient for interactive access, typically requiring only one or two disk accesses per record. Since one disk access is the absolute minimum if the record is to be physically loaded into memory, there is no basis to improve access speed by software techniques. Speed of access is limited only by hardware capabilities and is perceived as essentially instantaneous by the user for interactive access to a specific record.
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> <div align="center">* * *</div>
>
> 1. An information base system comprising:
> (a) an information storage device;
> (b) a file comprising a plurality of information records stored in said storage device, each record having at least one attribute with an orderable value;
> (c) a topological map stored in said storage device for at least certain ones of said attributes, said map comprising a plurality of predetermined range codes representing a predetermined number of ranges of attribute values, said ranges collectively including the attribute values for all information records in the information base, and wherein said plurality of range codes are arranged in an array which defines a correspondence between each of said information records and the ranges to which they map;
> (d) input means, cooperating with said information storage device, for receiving a query having specifications based upon specified parameters related to an attribute of the stored information records;
> (e) means, responsive to the query received by said input means, for accessing the topological map based upon said query and for identifying from said map, without inspection of the information records, information records in the information base based upon the specifications of the query and for indicating whether each respective information record does, does not, or may meet the specifications of the query;
> (f) means, responsive to the identifying means, for generating an output map and storing in said output map the identification of the information

records in the information base based upon the specifications of the query; and
(g) output means, responsive to said output map generating means, for accessing the information records identified by the output map based upon the specifications of the query, and for displaying said information records identified by the output map.

See Kuechler, Col. 1, lines 44-52, Col. 24, line 63-Col. 25, line 5; claim 1.

None of these provisions from Kuechler teach a "buy order [that] includes a filter specified by the user that creates an **arbitrarily**-shaped region within the at least four dimensions," as required by claim pending 1. On the contrary, it is respectfully submitted that Kuechler actually teaches away from the use of an indexing tree for processing **arbitrarily**-shaped search requests as recited in pending claim 1. *See* Kuechler at Col. 1, lines 64-68 ("Indexes provide efficient access only for the specific attribute or combination of attributes for which the index is designed. They are inefficient or inapplicable for the **flexible** inquiries encountered in commercial practice which include a broad range of logical relations between varied combinations of numerous attributes ....") For this reason alone, it is respectfully submitted that the limitations of claim 1 are not shown or suggested by the cited references.

Kuechler is further distinguishable from claim 1 because the indexing tree in Keuchler is designed using ranges and, as a result, a search of the tree may identify "information elements" that are not responsive to the query:

> ... Each topological map comprises compact symbols corresponding to predefined ranges of values of an attribute (field). A symbol for the range encompassing the value of that field for each information element (record) is stored in the topological map in correspondence to each element.
>
> ***
>
> Because the symbols used in the map represent ranges of values rather than exact values, the resolution of the query may find some information elements which "may" meet the specifications of the query but which

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cannot be determined with certainty solely by reference to the map. Only those information elements which "may" meet the specifications of the query need be inspected to determine whether they meet the specifications of the query.

See Kuechler, Col. 2, lines 47-49, Col. 3, lines 11-17.

Thus, as a result of the use of pre-defined ranges in the tree, the Keuchler system must perform a supplemental review of the query results returned from the tree in order to identify results responsive to the query. By contrast, amended claim 1 recites that "said searching of said indexing tree **only** identifies one or more sell orders that are within said arbitrarily-shaped region." For this further reason, it is respectfully submitted that the limitations of claim 1 are not shown or suggested by the cited references.
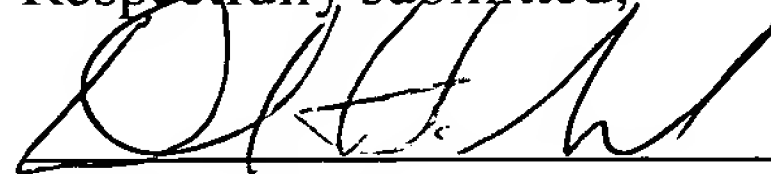
Moreover, even if the cited references did in combination teach all of the elements of claim 1, it would not have been obvious to combine Sundaresan and Kuechler as suggested by the Examiner. As mentioned previously, each sell order in Sundaresan corresponds to a different tree. However, the Examiner has asserted that the "B-Tree" in Keuchler includes a plurality of buy and sell orders. Clearly, these two incompatible approaches could not be combined to produce a single system without a substantial redesign of Sundaresan. Thus, it would not be obvious to combine Sundaresan and Keuchler as suggested by the Examiner. *See In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate"), and MPEP, Section 2143.01(VI) ("If the proposed modification or combination of the prior art would change

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the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.")

In view of the foregoing amendments and remarks, it is submitted that pending independent claims 1 and 26 are in condition for allowance. It is respectfully submitted that all dependent claims are allowable because each such claim depends from an allowable base claim. A Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any deficiency in the fees due in connection with this filing Deposit Account 50-0310. A duplicate of this authorization is enclosed.

Respectfully submitted,

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Dated: July 19, 2006